International Council for the
Exploration of the Sea

C.M.1982/H:1
Administrative Report

PELAGIC FISH COMMITTEE

by

O.J. Østvedt
1981

Belgium

(R. De Clerck, P. Hovart)

Herring and sprat

No market sampling of pelagic fish has been carried out in 1981. Research vessel surveys with bottom trawl on the two juvenile species were continued as given in the table below. The research is limited to length measurements.

Research vessel surveys.

Area	Season	Objectives
IVc Belgian coast	April and September	Recording densities of immature herring and sprat

Canada

No report received.

DENMARK

(N.A.Nielsen & K.Popp Madsen)

Herring

Sampling

Area	Season	Type of fish	No of samples Research vessel	No of samples Market	No of fish measured	No of fish aged	No of fish exam.racially
North Sea	IV		4	2	1036	1036	1036
Skagerrak	III		3	5	797	797	797
Kattegat	I		5	4	712	712	712
	II			3	522	522	522
	III			1	520	520	520
	IV			2	352	352	352
Øresund	II			1	117	117	117
	III			1	98	98	98
	IV			3	377	377	377
Danish fjords	II			8	1201	1201	1201
4A	I			1	1		
	II			1	1	1	
	III			7	40	40	
	IV			5	79	79	
4B	I			23	216	204	
	II			11	240	240	
	III			60	3248	3248	
	IV			20	705	705	
4C	I			4	16	16	
Skagerrak	I			5	153	153	
	II			22	376	376	
	III			36	2930	2930	
	IV			15	687	687	
Kattegat	I			31	1362	1312	
	II			1	5	5	
	III			8	839	839	
	IV			11	1322	1322	

Sprat

Sampling

Area	Season	Type of fish	No of samples Research vessel	Market	No of fish measured	No of fish aged
4A	III			1	95	95
4B	I			28	2833	2150
	II			29	652	495
	III			48	3741	3332
	IV			20	2090	1993
4C	I			5	566	207
Skagerrak	I			4	485	485
	II			16	1109	1109
	III			16	1049	1043
	IV			8	507	506
Kattegat	I			15	1704	1704
	II			1	20	20
	III			3	352	352
	IV			6	362	362

Mackerel

Sampling

Area	Season	Type of fish	No of samples Research vessel	Market	No of fish measured	No of fish aged
IVb	IV			1	1	
Hebridene VIa	IV			1	87	87

MACKEREL

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	0	0	0	0
	2	"	-	0	0	0	0
	3	"	-	0	0	0	0
	4	"	-	1	1	0	0
Skager-rak	1	Mixed	-	0	0	0	0
	2	"	-	0	0	0	0
	3	"	-	4	10	0	0
	4	"	-	0	0	0	0

Finland

(R. Parmanne & V. Sjöblom)

No work was carried out on pelagic fish other than that reported to the Baltic Fish Committee.

F R A N C E

(A. MAUCORPS)

Echantillonnage HARENG *(Clupea harengus)*

Région	Saison	Type de poisson	Nb. échantillons	marché	Nb. de poissons mesurés	âgés
VI a (01)	2	adulte		1	206	57
IVc + VIId (12)	3	adulte	1		66	
	4	géniteur		1	1 218	51
			7		4 054	476
TOTAL					5 544	584

Echantillonnage MAQUEREAU *(Scomber scombrus)*

Région	Saison	Type de poisson	Nb. échantillons		Nb. de poissons	
			navire	marché	mesurés	dont âge déterminé
VIa	1	mélangé		x	413	
	2			x	253	45
	3					
	4			x	137	
VIIa	1	mélangé				
	2			x	75	
	3					
	4		x	x	116	
VIId	1	mélangé				
	2			x	692	81
	3			x	329	
	4					
VIIe	1	mélangé		x	1 921	90
	2			x	442	79
	3					
	4		x	x	287	
VIIf	1	mélangé		x	259	71
	2			x	393	
	3			x	68	32
	4					
VIIg	1	mélangé		x	708	147
	2			x	143	
	3			x	253	45
	4		x	x	927	188
VIIh	1	mélangé		x	721	
	2			x	76	46
	3					
	4					
VIIIab	1	mélangé	x	x	1 268	553
	2		x	x	2 460	1 478
	3		x	x	1 385	133
	4		x	x	624	244
TOTAL					13 950	3 232

Echantillonnage MAQUEREAU *(Scomber scombrus)*

Région	Saison	Type de poisson	Nb. échantillons		Nb. de poissons	
			navire	marché	mesurés	dont âge déterminé
VIa	1	mélangé		x	413	
	2			x	253	45
	3					
	4			x	137	
VIIa	1	mélangé				
	2			x	75	
	3					
	4		x	x	116	
VIId	1	mélangé				
	2			x	692	81
	3			x	329	
	4					
VIIe	1	mélangé		x	1 921	90
	2			x	442	79
	3					
	4		x	x	287	
VIIf	1	mélangé		x	259	71
	2			x	393	
	3			x	68	32
	4					
VIIg	1	mélangé		x	708	147
	2			x	143	
	3			x	253	45
	4		x	x	927	188
VIIh	1	mélangé		x	721	
	2			x	76	46
	3					
	4					
VIIIab	1	mélangé	x	x	1 268	553
	2		x	x	2 460	1 478
	3		x	x	1 385	133
	4		x	x	624	244
TOTAL					13 950	3 232

Echantillonnage CHINCHARD *(Trachurus trachurus)*

Région	Saison	Type de poisson	Nb. échantillons		Nb. de poissons	
				marché	mesurés	âgés
VIIa	4	x			61	
VIIe	4	x			445	
VIIf	4	x			253	
VIIg	4	x			167	
TOTAL					926	

German Democratic Republic

(L. Danke)

Sampling — Blue Whiting

Area	Season	Type of Fish	No. of Samples		No. of Fish	
			Research Vessel	Commercial Vessel	Measured	Aged
II a	1	Mixed		6	1188	191
	2	"		21	5732	295
	3	"	19	29	10494	1458
II b	3	"	40		1030	3354
IIIa	3	"	3		1419	80
IVaw	1	"		7	1000	250
V b1	1	"		26	4473	980
	2	"		14	2232	285
XIV	3	"	2		393	100

Research vessel surveys

Area	Date	Objectives
Spitsbergen	21.8.- 4.9.	Groundfish survey
Norwegian Sea	1.8.-20.8.	Blue Whiting survey
Norwegian Sea	5.9.- 9.9.	Hydrography

Sampling — Capelin

Area	Season	Type of Fish	No. of Samples		No. of Fish	
			Research Vessel	Commercial Vessel	Measured	Aged
II a	3		2		148	50
II b	3		8		516	100

German Democratic Republic

(L. Danke)

Sampling

Blue Whiting

Area	Season	Type of Fish	No. of Samples		No. of Fish	
			Research Vessel	Commercial Vessel	Measured	Aged
II a	1	Mixed		6	1188	191
	2	"		21	5732	295
	3	"	19	29	10494	1458
II b	3	"	40		1030	3354
IIIa	3	"	3		1419	80
IVaw	1	"		7	1000	250
V b1	1	"		26	4473	980
	2	"		14	2232	285
XIV	3	"	2		393	100

Research vessel surveys

Area	Date	Objectives
Spitsbergen	21.8.- 4.9.	Groundfish survey
Norwegian Sea	1.8.-20.8.	Blue Whiting survey
Norwegian Sea	5.9.- 9.9.	Hydrography

Sampling

Capelin

Area	Season	Type of Fish	No. of Samples		No. of Fish	
			Research Vessel	Commercial Vessel	Measured	Aged
II a	3		2		148	50
II b	3		8		516	100

Federal Republic of Germany

(H. Dornheim)

Species HERRING

Sampling

Area	Season	Type of Fish	No of Samples Research Vessel	No of Samples Factory Ship	No of Fish measured	No of Fish aged	No of Fish examined racially
Hebrides (01)	III	adults	7	-	2327	500	300
NW-North Sea (03)	I	adults immat.	3	-	236	210	150
NW of Ireland (06)	II	adults	1	-	230	100	100
	III	adults	5	-	967	300	200
	IV	adults	-	4	2313	300	300
South Buchan (08)	I	immat.	3	-	540	100	-
Central North Sea (09)	I	immat.	4	-	587	226	201
	III	-	7	-	1347	-	-
	IV	-	-	-	126	-	-
W of Ireland (10)	II	adults	2	-	279	93	93
	III	adults	1	-	210	-	-
S-North Sea (12)	I	immat.	6	-	1156	300	-
	IV	-	3	-	384	-	-
S of Ireland (13)	II	adults	2	-	337	168	168

Research Vessel Surveys

Area	Date	Objectives
NW-North Sea (03), South Buchan (08), Central North Sea (09)	20.01.-10.02.81	International Young Fish Survey
S-North Sea (12)	02.01.-15.01.81	Groundfish Survey
S-North Sea (12)	27.02.-13.03.81	Groundfish Survey
NW of Ireland (06), W of Ireland (10), S of Ireland (13)	21.04.-15.05.81	Mackerel (adults, eggs) and Herring Survey
Hebrides (01)	10.08.-09.09.81	Gear Research
Central North Sea (09)	09.09.-22.09.81	Groundfish Survey
Hebrides (01), NW of Ireland (06), W of Ireland (10)	15.09.-01.10.81	Mackerel and Herring (adults) Survey
S-North Sea (12)	17.11.-27.11.81.	Groundfish Survey

Species SPRAT

Sampling

Area	Season	No of Samples Research Vessel	No of Samples Market	No of Fish measured
IV North Sea	I	2	-	397
IVb Central North Sea	III	6	-	922
	IV	-	-	72
VII b,c W of Ireland	II	2	-	117
VII g-k S of Ireland	II	3	-	385

Research Vessel Surveys

Area	Date	Objectives
IV a + b North Sea	20.01.-10.02.81	International Young Fish Survey
VII b,c and VII g-k W of Ireland S of Ireland	21.04.-15.05.81	Mackerel (adults, eggs) and Herring Survey
IV b Central North Sea	09.09.-22.09.81	Groundfish Survey

Species MACKEREL

Sampling

Area	Season	Type of Fish	No of Samples Research Vessel	No of Samples Factory Ship	No of Fish measured	No of Fish aged	No of Fish examined racially
IV b Central North Sea	III	-	1	-	533	-	-
VI a W of Scotland	II	adults	3	-	616	119	-
	III	adu,imm	4	-	562	98	-
	IV	" "	-	12	6115	400	-
VII b,c W of Ireland	II	"	4	-	315	98	-
	III	" "	3	-	218	92	-
	IV	" "	-	4	2218	100	-
VII g-k S of Ireland	II	" "	10	-	2276	275	-
	III	"	1	-	70	-	-

Research Vessel Surveys

Area	Date	Objectives
VIa W of Scotland VIIb,c W of Ireland VII g-k S of Ireland	21.04.-15.05.81	Mackerel (adults,eggs) and Herring Survey
IV b Central North Sea	09.09.-22.09.81	Groundfish Survey
VIa W of Scotland VII b,c W of Ireland VII g-k S of Ireland	15.09.-01.10.81	Mackerel and Herring (adults) Survey

Species HORSE MACKEREL

Sampling

Area	Season	No of Samples Research Vessel	Market	No of Fish measured
VI a W of Scotland	III	5	-	611
VIIb,c W of Ireland	III	1	-	179
VIIg-k S of Ireland	II	9	-	1277
	III	2	-	251

Research Vessel Surveys

Area	Date	Objectives
VII g-k S of Ireland	21.04.-15.05.81	Mackerel (adults,eggs) and Herring Survey
VI a W of Scotland VIIb,c W of Ireland VIIg-k S of Ireland	15.09.-01.10.81	Mackerel and Herring (adults) Survey

Species BLUE WHITING

Sampling

Area	Season	No of Samples Research Vessel	Factory Ship	No of Fish measured	aged
II Spitsb./Bear Isl.	III	9	-	1847	200
IIa Norw.Sea	III	6	-	707	150
VIa W of Scotland	III	2	-	322	100
VIb Rockall	III	14	-	3123	811
VIIb,c W of Ireland	II	5	-	1045	50
	III	1	-	122	-
VIIg-k S of Ireland	II	27	-	4198	50
	III	2	-	288	-
XIV E of Greenland	III	21	34	9189	980

Research Vessel Surveys

Area	Date	Objectives
VIIb,c W of Ireland VIIg-k S of Ireland	21.04.-15.05.81	Mackerel (adults,eggs) and Herring Survey
XIV E of Greenland	23.06.-24.07.81	Groundfish Survey
II Spitsb./Bear Isl. IIa Norw.Sea	08.07.-12.08.81	Groundfish Survey
VIb Rockall	10.08.-04.09.81	Gear Research
VIa W of Scotland VIIb,c W of Ireland VIIg-k S of Ireland	15.09.-01.10.81	Mackerel and Herring (adults) Survey

ICELAND

(Jakob Jakobsson)

Sampling BLUE WHITING

Area	Season	Type of fish	No of samples	No of fish Measured	Aged
E and S Iceland	March	adult	5	225	
SE Iceland	Aug.-Sept.	adult	6	600	587
E Iceland	Sept.	adult	3	42	

Research vessel Surveys

Area	Date	Objective
Dohrn Bank	21.-24. Sept. and 7.-14. Oct.	Blue whiting survey, exploratory fishing.

Sampling HERRING

Area	Season	Type of fish	No.of samples Res.vessels	Fish.vessels	No. of fish Measured	Aged	Examined racially
W,N,S Iceland	Mar.-Sep.	adults	8	13	2082	1383	1383
E, S Iceland	Jan and Sep-Dec.[x)]	mixed	9	43	8069	3471	3471
W, N,E Iceland	Jan-Jun and Nov.	immature	16	8	3957	2000	2000

x) the fishing season

Research vessel surveys

Area	Date	Objective
W, N, E Iceland	25. 2. - 15. 3.	Abundance estimates, immatures, juveniles, hydrography.
W, N, E Iceland	21. 5. - 5. 6.	Abundance estimates, immatures, juveniles, environmental survey
S Iceland	4. 8. - 16. 8.	Herring larvae
N, E, S Iceland	16. 11.- 13.12.	Abundance estimates, hydrography.
S Iceland	19.12. 21.12.	Abundance estimates.

Sampling CAPELIN

Area	Season	Type of fish	No of samples Res.vessels	Fish vessels	No. of fish Measured	Aged	examined racially
W,N, E, Iceland	Jan-Apr.	Mixed	13	12	2428	1744	300
SE, S, SW Iceland	Feb-Apr.	Adult		11	1100	1100	200
Iceland-Jan Mayen	Jun-Dec.	Mixed	34	29	2775	2453	300
Iceland E-Greenland	Aug.	0-group	112		5451		

Research vessel and other surveys.

Area	Date	Objective
N,E Iceland	5.1.-28.1.	Abundance estimates, Target Strength Measurements.
W,N,E Iceland	5.1.-31.1.	Abundance estimates, hydrography
?	5.2.-16.2.	Abundance estimates, hydrography
W,N,E Iceland	3.3.-10.3.	Capelin Survey.
SE, S Iceland	21.3.-31.3.	Capelin spawning.
Iceland- E-Greenland	7.8.- 8.9.	0-group, capelin and other species
NW, N, NE Iceland	2.10.-25.10.	Abundance estimates
NW,N,NE Icland	2.11.- 1.12.	Abundance estimates, hydrography.

Sampling 1981 — Species : Mackerel

Area	Season	Type of Fish	Number of Samples	Number of Fish Measured	Number of Fish Aged	Number of Fish Examined Recently
Div VIa	I-XII	Adult	34	15,127	3,071	18,198
Div VIIj	III, IV, VII, VIII	Adult	16	2,529	850	3,379

Sampling 1981 — Species : Herring

Div VIIb-c	I, III, IV, VI, VII, IX	Adult	11	2,603	597	3,200
Div VIa	I, III, IV, V, VI, VII, VIII, IX	Adult	31	8,952	1,540	10,492
Irish Sea	I-XII	Adult	10	2,812	487	3,299
Celtic Sea	IX, X, XII, XI	Adult	30	3,314	1,365	4,679
VIIj	I, II, IV, VII, VIII, IX, X, XI	Adult	22	4,984	1,060	6,044

Sampling 1981 — Species : Sprat

Div VIa	VIII, X, XI	Adult	3	404	40	-
Div VIIb	*XI	Adult	3	638	-	-
Div VIIj	X, XI*, XII	Adult	8	2,096	129	-

* Including BIM samples.

Research Vessel Surveys

Area	Season	Objective
VIIa	II	Young Herring Survey
VIIa	III, IV, V, VI, VII, IX	Egg Larval Survey
Celtic Sea	I, II, X, XI, XII	Herring Larval Survey
(VIa-VIIb-c)	X	Young Herring Survey
	X, XI	Herring Larval Survey

The Netherlands

(A. Corten)

Sampling data HERRING

Area	Quarter of year	Type of fish	No. of samples		No. of fish		
			research vessel	market	measured	aged	examined racially
01 Hebrides	2	adults		1	141	50	-
"	3	"		5	594	250	-
"	4	"		1	138	50	-
02 W. Shetland	3	"		1	138	50	-
03 NW. North Sea	3	"	4		274	200	-
06 NW. Ireland	1	"		1	163	50	-
"	2	"		1	116	50	-
"	3	"		3	315	150	-
"	4	"		2	248	100	-
09 Centr. North Sea	3		2		276	100	-
10 West of Ireland	2	"		5	501	250	-
"	3	"		3	403	150	-
12 South. North Sea	1	"		1	168	50	-
"	4	"		11	2555	800	-
13 South of Ireland	3	"		3	322	150	-
total			6	38	6352	2450	

Sampling data MACKEREL

Area	Quarter of year	No. of samples		No. of fish		
		research vessel	market samples	measured	aged	racial invest.
IVa N. North Sea	3		5	199	125	-
IVb Centr. North Sea	2		2	150	50	-
" "	3		2	162	75	-
" "	4		2	112	50	-
IVc S. North Sea	2		2	121	50	-
" "	3		1	65	50	-
" "	4		4	328	125	-
VIa NW. Ireland	1		7	406	250	-
" "	2		2	126	50	-
" "	3		6	431	150	-
" "	4		3	147	106	-
VII South of Ireland	1		14	752	350	-
" "	2		22	1411	600	-
" "	3		13	1616	425	-
" "	4		20	2786	550	-
Total			105	8812	3006	

Research vessel surveys

Area	Dates	Objectives
IVa,b,c Total North Sea	02/02-07/03	ICES Young Fish Survey
IVc S. North Sea	05-09/01	ICES herring larval survey
IVb Centr. North Sea	07/09-02/10	" " "
IVa N. North Sea	31/08-12/09	" " "
IVc S. North Sea	14-18/12	" " "
IVa N. North Sea	27/07-08/08	ICES Herring echo survey
VIId,e West Channel	30/11-11/12	Mackerel mesh selection

NORWAY

(J. Hamre, O.J. Østvedt)

Herring (Clupea harengus) North of 62°N

Sampling

Area	Season	Type of fish	No.of samples Research vessels	Market	No.of fish measured	No.of fish aged	No.of fish exam.
Norw.coast (Finnmark)							
I	I	Adult	2		200	185	
Barents Sea							
I	I	-"-	2		110	53	
Norw.coast							
IIa	I	Mixed	27		2130	1347	
	II	-"-	16		1353	965	
	III	-"-	1	8	879	709	200+
	IV	-"-	20	16	3184	2284	1400
Total			68	24	7856	5544	

+) Mostly herring larvae

Research vessel surveys

Area	Date	Objectives
Norwegian coast 62°N - 69°N	January-March	Spawning migrations, experimental fishing
Norwegian coast 62°N - 70°N	April-May	Distribution herring larvae
Norwegian coast 62°N - 67°N	April-May	Tagging
Barents Sea/Norwegian Sea	August	Distribution O-group herring
Norwegian coast 62°N - 69°N	Oct.-November	Sampling commercial fishery, experimental fishing
Norwegian coast 62°N - 71°N	Nov.-December	O-group survey

Tagging

	Season	Type of tags	No.of Tagged	Type of fish	Recov.
Norw.coast	II	Internal	34944	Adult	137

Herring (cont.)

Sampling

North Sea, Skagerrak

Area	Season	Type of fish	No.of samples Research vessels	Market	No.of fish measured	No.of fish aged	No.of fish exam.rac.
Central	I	Immat.	20	-	1580	1580	1580
North Sea	III	Adult	-	4	400	400	400
IVb	IV	"	5	-	465	460	460
	I	Adult	2	-	163	160	160
Northern	II	Imm/Ad.	1	-	100	100	100
North Sea	III	"	4	6	981	960	640
IVa	IV	"	-	6	550	550	550
Skagerrak	I	Imm/ad	1	2	230	230	230
	II	Adult	-	2	200	200	200
IIIa	III	Imm/ad.	-	4	254	250	250
	IV	Imm	9	2	1133	1130	1130
NW	III	Adult	4	-	330	330	100
North Sea	IV	Imm/Ad.	-	5	498	498	498
VIa							

Research vessel surveys

Area	Season	Objectives
North Sea	Jan/Feb	Int.young fish survey, herring
NW North Sea	July	North sea herring acoustic survey
North Sea	October	Intern,herring larvae investigation
North Sea - Skagerrak	November	Acoustic and trawl survey in selected areas (sprat/herring)
Skagerrak - along the Norwegian coast north to Varangerfjord	November	Fish survey,0-group sprat/herring

Sprat (Sprattus sprattus)

Sampling

Area	Season	Type of fish	No.of samples Research vessels	Market	No.of fish measured	No.of fish aged
Central North Sea IVb	I	Adult	18	-	1660	1170
	IV	"	4	-	330	330
South North Sea IVc	I	Adult	1	-	100	100
Skagerrak	I	Adult	3	-	305	245
IIIa	IV	"	6	-	523	523

Researh vessel surveys

Area	Season	Objectives
North Sea	January	Fish survey, sprat
North Sea - Skagerrak	November	Acoustic and trawl survey in selected areas (sprat/herring)
Skagerrak along the Norwegian coast north to Varangerfjord	November	Fish survey, 0-group sprat/herring

Capelin (Mallotus villosus)

Sampling

Area	Season	Type of fish	No. of samples Research vessels	Market	No. of fish measured	No. of fish aged
Barents	I	Mixed	65	1255	134037	7425
Sea	II	-"-	31		3037	2768
I	III	-"-	214	200	37959	8114
	IV	-"-	2		139	139
Norw.coast	I	-"-	18	1503	156039	3454
IIa	II	-"-	10	124	13668	1231
	III	-"-	40		3064	10
	IV	-"-	2		138	138
Jan Mayen	III	-"-	9	137	14598	700
IIa						
Bear Island	I	-"-	8		800	514
Svalbard	II	-"-	27		2606	2449
IIb	III	-"-	119	565	65978	4437
	IV	-"-	3	1	306	224
Iceland	III	-"-	5		328	100
Va	IV	-"-	8		759	585
Iceland,	III	-"-	4	2	608	400
Greenland	IV	-"-	9		819	501
XIVa						
Total			574	3787	434883	33189

Capelin (Mallotus villosus)

Research vessel surveys

Area	Date	Objectives
Barents Sea	January	Distribution, spawning migration
Barents Sea, Finnmark coast	March	Spawning capelin
Barents Sea	May	Investigations on feeding grounds of capelin
Barents Sea, Finnmark coast	June	Distribution of larvae
Barents Sea	July-August	Feeding grounds of capelin
Barents Sea	Aug.-Sept.+)	0-group survey. Distribution and abundance of older capelin
Jan Mayen-Iceland	October	Distribution and abundance

+) Two vessels

Tagging

None.

Blue Whiting (Micromesistius poutassou)

Sampling

Area	Season	Type of fish	No.of samples Research vessels	Market	No.of fish measured	No.of fish aged
Barents Sea I	III	Mixed	1		58	58
	IV	-"-	1		2	2
Norwegian Sea IIa	I	-"-	7		146	140
	II	-"-	32	1	1366	1520
	III	-"-	66	4	2947	2274
	IV	-"-	50		3740	2380
Skagerrak IIIa	IV	-"-	1		16	16
Northern North Sea IVa	I	-"-	3	2	434	423
	II	-"-		3	295	292
	III	-"-	2		126	126
	IV	-"-	10	1	464	464
Iceland Va	III	-"-	8		495	485
	IV	-"-	1		4	4
Faroes Vb1	I	-"-	6		549	522
West of Scotland VIa	I	-"-	17		1521	1472
	II	-"-	7		577	570
West of Scotland VIb	I	-"-	1		167	100
West of Ireland VIIb,c	I	-"-	1	1	140	137
Total			214		13247	10985

Research vessel surveys

Area	Date	Objectives
W. of British Faroes	March - April	Survey spawning ground
Norwegian Coast	April - May	Distribution adult and young fish
Norwegian Sea	August	Survey feeding area, O-group
Svalbard	Sept.-October	Distribution feeding ground
Norwegian Coast	October-November	Distribution adult and young fish
North SEa	November	Young fish

Tagging

None

Polar cod (Boreogadus saida)

Sampling

Area	Season	Type of fish	No.of samples Research vessels	Market	No.of fish measured	No.of fish aged
Barents Sea I	I	Mixed	12		1371	0
	II	-"-	7		809	0
	III	-"-	29		3039	298
Jan Mayen IIa	III	-"-	1		61	61
Northern Norwegian Sea IIb	II		5		398	0
	III		6		613	74

Mackerel (Scomber scombrus)

Sampling

Area	Season	Type of fish	No.of samples Research vessels	Market	No.of fish measured	No.of fish aged
IIa	II	Adult		1	98	98
	III	Adult		10	982	982
IIIa	II	"		1	100	50
	III	Ad/Imm	2	1	273	231
IVa	II	Adult	4	4	637	579
	III	Ad/Imm	3	3	427	427
IVb	II	Adult	3		250	250
	III	Ad/Imm	4	1	369	369
VIa	IV	Adult		6	600	600
VII g-k	II	Ad/Imm		5	412	372

Research vessel surveys

Area	Season	Objectives
North Sea	Jun/Aug	Egg and larval survey, mackerel
Western Channel-North Sea	June	Egg and larval survey, mackerel

Tagging

Area	Season	Type of tags	No. tagged	Type of fish	Total recoveries 1981
VII g-k SW of Ireland	II	int.steel	9872	Mackerel	
IIIa Skagerrak	III	int.steel	4199	Mackerel	

P O L A N D

(J. Elwertowski, J. Popiel)

Species: Blue whiting

Sampling 1981

/ M.Giedz/

Area	Season	Type of fish	No of Samples Research		No. of Fish measured	No. of Fish aged	No. of Fish examined racially
			Vessel	Market			
VI a	II	Adults	9		9 854	1 017	
IV a	II	"	5		7 097	603	
II a	II	"	8		12 078	865	
Total			22		29 029	2 485	

ESPÈCE: Sardina pilchardus

Région	Saison	Type de poisson	N. échantillons		N. poissons		
			Marché	Navire de Recherches	Mesurés	Dont âge determiné otolithes	Dont âge determiné ecailles
IX	1er trimestre	Tous	145	13	13 737	732	264
IX	2ème trimestre		188	7	14 585	348	73
IX	3ème trimestre		159	1	12 347	506	98
IX	4ème trimestre		162	3	12 636	541	185
TOTAUX			654	24	53 305	2 127	620

ESPÈCE: Scomber scombrus

Région	Saison	Type de poisson	N. échantillons		N. poissons	
			Marché	Navire de Recherches	Mesurés	Dont âge determiné otolithes
IX	1er trimestre	Tous	140	29	6 944	496
IX	2ème trimestre		165	31	9 953	665
IX	3ème trimestre		210	6	8 395	482
IX	4ème trimestre		133	5	8 549	555
TOTAUX			648	71	33 841	2 198

ESPÈCE: Scomber japonicus

Région	Saison	Type de poisson	N. échantillons		N. poissons	
			Marché	Navire de Recherches	Mesurés	Dont âge determiné otolithes
IX	1er trimestre	Tous	4	-	131	4
IX	2ème trimestre		19	-	1 062	19
IX	3ème trimestre		34	-	1 761	34
IX	4ème trimestre		2	-	61	2
	TOTAUX		59	-	3 015	59

ESPÈCE: Trachurus trachurus

Région	Saison	Type de poisson	N. échantillons		N. poissons	
			Marché	Navire de Recherches	Mesurés	Dont âge determiné otolithes
IX	1er trimestre	Tous	368	50	25 695	528
IX	2ème trimestre		485	52	36 337	517
IX	3ème trimestre		343	-	23 891	222
IX	4ème trimestre		350	75	42 881	196
	TOTAUX		1 546	177	128 804	1 463

ESPÈCE: Micromesistius poutassou

Région	Saison	Type de poisson	N. échantillons		N. poissons	
			Marché	Navire de Recherches	Mesurés	Dont âge determiné otolithes
IX	1er trimestre	Tous	126	61	12 469	284*
IX	2ème trimestre		145	53	15 012	454
IX	3ème trimestre		107	-	8 426	192
IX	4ème trimestre		74	-	5 644	161
	TOTAUX		452	114	41 551	1 091

* Les chiffres enregistrés dans le tableau concernent les pairs d'otolithes qui ont été retirés mais pas encore observés.

Spain

(O. Cendrero et M.A. Rodríguez)

Les programmes de recherche n'ont pas subi des changements en 1981, à l'exception d'un seminaire luso-espagnol pour la standardisation des techniques de détermination de l'âge des sardines qui a eu lieu à Vigo (Espagne).

Les apports de la pêche sardinière ont augmente par rapport à ceux de 1980. Pourtant, la pêche à l'anchois a expérimenté une forte chute, les prises totales étant à peu prés la moitié de celles de l'année antérieure et composées par anchois de grande taille ("moule" 26-32). Le niveau des captures autres espèces pélagiques étudiées s'est maintenu en général pareil, hors le chinchard, dont les stocks sont considerés en franche diminution.

Sardine, Sardina pilchardus

Région	Trimestre.	Type de poissons	Nombre des échantillons		Nombre de poissons	
			Bateau	Marché	Mesurés	Agés
VIIIc	1	Juveniles et adultes	-	33	1 527	-
	2	"	-	50	2 790	242
	3	"	-	43	2 320	100
	4	"	-	21	1 823	-
IXa	1	"	-	24	3 253	417
	2	"	-	33	4 162	312
	3	"	-	45	3 263	272
	4	"	-	46	7 607	266
27° N to 29° N	1	"	-	20	968	190
	2	"	-	20	6 082	198
	3	"	-	45	39 040	522
	4	"	-	45	27 788	558

Anchois, Engraulis encrasicolus

Región	Tri-mes-tre	Type de poissons	Nombre des échantillons		Nombre de poissons	
			Bateau	Marché	Mesurés	Agés
VIIIc	2	Adultes	2	2	378	85
	3	"	-	1	62	-

Chinchard, Trachurus trachurus

Región	Tri-mes-tre	Type de poissons	Nombre des échantillons		Nombre de poissons	
			Bateau	Marché	Mesurés	Agés
VIIIc	1	Adultes	-	6	718	-
	3	"	-	1	22	-
IXa	1	"	-	2	107	-
	3	"	-	4	385	-

Germón, Thunnus alalunga

Región	Tri-mes-tre	Type de poissons	Nombre des échantillons		Nombre de poissons	
			Bateau	Marché	Mesurés	Agés
VIII	2	Juveniles	-	6	679	-
	3	"	-	120	12 108	-
	4	"	-	2	190	-

Espadon, Xiphias gladius

Región	Tri-mes-tre	Type de poissons	Nombre des échantillons	Nombre de poissons
VIIj,k	1	Adultes	6	592
VIIIa,c	2	"	4	377
IXa,b	3	"	4	344
X	4	"	25	2 080

Merlan bleu, Micromesistius poutassou

Région	Trimestre	Type de poissons	Nombre des échantillons		Nombre de poissons	
			Bateau recherche	Marché	Mesurés	Agés
VIIIc	1	Adultes et juveniles	9	21	3 652	178
	2		-	10	1 091	123
	3		19	21	3 629	177
	4		-	10	795	117
IXa	1	Adultes et juveniles	2	12	2 231	148
	2		-	15	1 947	142
	3		6	16	2 524	154
	4		-	17	2 313	149

SWEDEN

(O. Hagstrøm, R.Rosenberg)

SAMPLING

HERRING

Area	Season	Type of Fish	No. of Samples Research		No. of Fish		No. of Fish examined racially
			Vessel	Market	Measured	Aged	
Kattegat	I,II,III	Imm., ad.	15	139	43 848	3 548	3 548
	IV, V, VI	Imm., ad./ Spawners	-	14	3 157	733	733
	VII, VIII, IX	Imm., ad.	7	55	17 344	1 699	1 699
	X, XI, XII	Imm., ad./ Spawners	-	37	13 580	960	960
Skagerak	I,II,III	Imm., ad.	10	3	2 602	1 258	1 258
	VII, VIII,IX	Imm., ad./ Spawners	6	17	5 818	1 336	1 336
Total			38	265	86 349	9 534	9 534

RESEARCH VESSEL SURVEYS

Area	Season	Objectives
Kattegat, Skagerak	II	Investigation on young herring, herring larvae and stock separation
	IX	Echointegrations

United Kingdom

1. England and Wales

(A.C. Burd)

HERRING

Area	No of Samples		No of Fish		
	Research vessels	Market	Measured	Aged	Racial invest
North Sea 104A	6	0	1131	530	530
104B	18	0	4546	1120	1120
104C	3	9	2932	1137	1137
Thames Estuary 104C	0	4	917	400	400
Irish Sea 107A	0	1	78	78	78
W Ireland 107 B-C	1	0	35	35	35

SPRAT

Area		No of Samples		No of Fish		
		Research vessels	Market	Measured	Aged	Racial invest.
North Sea	104A	8		120		
	104B	34		2351		
	104C	30		2627		
Thames Estuary	104C	10	13	3499	132	
W Scotland	106A					
Irish Sea	107A					
W Ireland	107B, 107C					
W English Channel	107E	10	34	4283	224	
Bristol Channel	107F					
Biscay	108					
E English Channel	107D	3		321		

MACKEREL

Area		No of Samples		No of Fish	
		Research vessels	Market	Measured	Aged
North Sea	104A	3	1	253	183
	104B	1		55	55
W Scotland	106A	3		354	354
W Ireland	107B-C	3		835	262
Celtic Sea	107G-K	3		1404	649
English Channel W	107E	2	13	28055	2352
Bristol Channel	107F				
Biscay	108	1		791	260

PILCHARD

Area		No of Samples		No of Fish	
		Research vessels	Market	Measured	Aged
English Channel W	107E	1	3	1064	377
Bristol Channel	107F				
Biscay	108	1		385	

HORSE MACKEREL

Area		No of samples		No of Fish	
		Research vessels	Market	Measured	Aged
W Scotland	106A	1		13	13
W Ireland	107B-C	1		112	112
Celtic Sea	107G-K	2		145	145
English Channel W	107E	2	4	1022	352
English Channel W	107E				
Bristol Channel	107F	1	5	744	217
S Ireland	107G-H				
Biscay	108	3		175	175

SPRAT

Area		No of Samples		No of Fish		
		Research vessels	Market	Measured	Aged	Racial invest.
North Sea	104A	0		120		
	104B	34		2351		
	104C	30		2627		
Thames Estuary	104C	10	13	3489	132	
W English Channel	107E	10	34	1287	224	
English Channel E	107D	2		228		

2. Research Vessel Surveys

Area		Month	Objectives
North Sea	104B-C	Jan/Feb	Sprat acoustic survey
North Sea, English Channel	104C, 107D	Jan/Feb	Herring larval survey
N North Sea, W Scotland, W Ireland, Celtic Sea, Biscay, English Channel	104A, 106A-B, 107B-C, E-K, 108	Feb/Mar	Mackerel survey
W Approaches, Celtic Sea	107G-K, 108	May	Mackerel egg survey
North Sea	104B-C	July	'0' gp herring survey
North Sea	104B	August	Herring acoustic survey
North Sea	104B-C	Sept/Oct	Herring larval survey
North Sea, English Channel	104C, 107D	Oct/Nov	Herring tagging
N North Sea, W Scotland, W Ireland, Celtic Sea, English Channel	104A, 106A-B, 107B-C, E-K, 108	Nov/Dec	Mackerel, pilchard, H. mackerel survey
North Sea, English Channel	104C, 107D-E	December	Sprat acoustic survey

United Kingdom

SCOTLAND

(R Bailey)

HERRING SAMPLING

Area	Season	Type of herring	Samples		No of fish		
			Type	No	measured only.	aged and meas.	examined racially
IVa Northern North Sea							
NWN Sea (03)	Jan-March	adult	research	3	12	108	0
	Jan-March	immat.	research	2	474	190	0
	July-Sep	adult	research	5	975	377	377
	Oct-Dec	adult	research	1	326	106	50
	Oct-Dec	immat.	research	4	689	171	0
IVb Central N Sea							
South Buchan (08)	Jan-March	immat.	research	6	929	322	0
	July-Sep	immat.	research	2	526	131	50
	Oct-Dec	immat.	research	6	1333	132	0
Central North Sea (09)	Jan-March	immat.	research	17	2899	743	50
	Oct-Dec	immat.	research	5	1651	988	145
IVa West of Britain							
Hebrides (01)	Jan-Mar	adult	research	4	1134	279	0
	Oct-Dec	adult	comm.	3	346	257	0
N Rona (02a)	Jan-March	adult	research	2	0	138	0
	April-June	adult	comm.	1	18	100	0
	Jul-Sep	adult	comm.	2	0	151	0
	Oct-Dec	adult	comm.	4	631	0	0
North West Ireland (06)	Jan-March	adult	research	4	0	266	0
North & South Minch							
(07a and b)	Jan-March	adult	comm.	3	352	446	70
	Jan-March	adult	research	7	198	522	86
	April-June	adult	research	2	929	400	0
	July-Sep	adult	comm.	54	7456	935	0
	Oct-Dec	adult	comm.	66	13077	1559	0
	Oct-Dec	immat.	research	7	1638	156	0
Clyde (07c)	Jan-March	adult	comm.	2	211	194	194
	April-June	adult	comm.	30	3078	899	749
	July-Sep	adult	comm.	50	5164	977	707
	Oct-Dec	adult	comm.	1	196	0	0
	Oct-Dec	immat.	research	18	3103	483	377

TAGGING

Area	Season	Type of Tag	No tagged	Type of fish	Recoveries
Clyde	April-June	Magnetic microtag	4311	Mixed	2
Irish Sea	July-Sep	Magnetic microtag	3041	Adult	4
Irish Sea	July-Sep	Flat T Tag	881	Adult	0

Research Vessel Surveys

Area	Season	Objectives
North Sea	Feb-March	International Young Herring Survey
North Sea (Orkney-Shetland)	August	Acoustic and trawling survey. [in accordance with C. Res. 1980/2:04]
North Sea	September	Larval surveys
West coast of Scotland	Sep-Oct	Larval surveys
West coast of Scotland	Nov-Dec	0 - and 1 - group trawling survey
Clyde	November	0 - and 1 - group trawling survey

Other Research Activities

In accordance with C Res 1980/2:25, a pilot herring tagging experiment using micromagnetic wire tags was carried out in the Firth of Clyde and Irish Sea during 1981. Monitoring catches for the presence of tags was carried out on board the tagging vessels and in land-based herring processing factories.

Experimental studies continued on the development, growth and survival of herring larvae in water varying in the intensity of its contamination by oil.

Examination of both adult and juvenile Minch herring for tag parasites was continued to obtain further information to quantify the proportion of recruitment from Blåden and other nursery areas at each age to the Minch. In addition juvenile herring samples from the North Sea were examined for tag parasites in order to check for recent changes in the infection rates.

SPRAT SAMPLING 1981

Area	Season	No of samples		No of fish	
		Research Vessel	Market	Measured	Aged
IVa	Jan - Mar	7	1	1583	129
	Apr - Jun	-	-	-	-
	Jul - Sep	-	-	-	-
	Oct - Dec	3	1	601	92
IVb	Jan - Mar	32	13	9475	1009
	Apr - Jun	-	-	-	-
	Jul - Sep	-	-	-	-
	Oct - Dec	21	-	2877	274
VIa	Jan - Mar	-	-	-	-
	Apr - Jun	-	-	-	-
	Jul - Sep	-	-	-	-
	Oct - Dec	-	6	1467	161

Research Vessel Surveys

Area	Date	Objective
Western North Sea	January	Acoustic and trawling survey (in accordance with C. Res. 1980/2:24)
Western North Sea	November	Acoustic and trawling survey

MACKEREL SAMPLING

AREA	SEASON	NO. OF SAMPLES RESEARCH VESSEL	NO. OF SAMPLES MARKET	NO. OF FISH MEAS.	NO. OF FISH AGED	TYPE OF FISH
IVa Northern North Sea	Apr-Jun	10	2	606	738	Immature/adult
	Jul-Sept	35	9	3057	990	Immature/adult
	Oct-Dec	7	1	342	68	Immature/adult
IVb Central North Sea	Jan-Mar	1	0	1	1	Immature
	Jul-Sept	17	3	1102	154	Immature/adult
	Oct-Dec	10	1	700	82	Immature/adult
VIa West of Scotland	Jan-Mar	15	3	1079	275	Immature/adult
	Apr-Jun	3	4	446	266	Adult
	Jul-Sept	7	27	8354	1313	Immature/adult
	Oct-Dec	0	47	3650	298	Adult

RESEARCH VESSEL SURVEYS

AREA	SEASON	OBJECTIVES
Edge of continental shelf from NW Ireland to NE Shetlands	Jul-Aug	Acoustic survey

BLUE WHITING

SAMPLING

Area	Season	Type of fish	No. of samples		No. of fish	
			Research vessel	Market	measured	aged
West of Ireland (VIIb)	Jan-Mar	Spawners/ Adults	2	-	113	110
West of Scotland (VIa)	Apr-Jun	Spawners/ Adults	3	2	766	482

RESEARCH VESSEL SURVEYS

Area	Date	Objectives
Continental slope west of Scotland and Ireland	25 March-14 April 1981 (in accordance with C. Res. 1980/4: 11)	Acoustic survey

OTHER RESEARCH ACTIVITES

In accordance with C. Res. 1980/2:8, biological data on the spawning stock of blue whiting from the areas west of Britain and Ireland were collated for the Blue Whiting Assessment Working group.

Additional information on sex, maturity and individual weight was also collected.

Investigations into the methodology and interpretive aspects of age determination were completed.

Investigations were begun into stock separation using meristic characteristics.

Spurdog Squalus acanthias

Sampling

Area	Season	Type of Fish	No. of Samples		No. of fish measured	
			Research Vessels	Market	Research Vessels	Market
IVa-b	1-4	All	80	42	2845	5989
VIa	1-4	All	30	77	1861	9363

Tagging

Area	Season	Type of Tag	No. Tagged	Type of Fish	Recoveries
IVa	May/Dec	Petersen Discs and Flag	828	All	1
VIa	Dec	Petersen Discs	1056	All	8

Research Vessel Surveys

Area	Date	Objectives
IVa-VIa	9-23 December 1981	Distribution survey (trawl)

Other Research Activities

Continued analyses of stomach contents were carried out

USA

(Richard C. Hennemuth,
Edward D. Houde)

Ecosystem dynamics and food web studies

Northeast Fisheries Center continued work on development of a multispecies predator-prey model (GEORGE) and estimating food consumption of fishes with particular emphasis on evaluating the relative importance of predation on 0-group fish in controlling recruitment fluctuations. A more generalized model was developed for estimating daily rations from stomach-content data, and improved estimates of consumption including size of fish prey were calculated for major fish species on Georges Bank. These estimates showed that a principal part of the food of fish predators consists of very small post-larval fish. Also gross estimates of early life stage mortality were made based on larval abundance and subsequent recruitment showing that late larval and post-larval mortality was extremely high. These observations indicate that predation on pre-exploitable fish is large enough to cause major recruitment fluctuations.

The Center conducted statistical studies on sampling errors associated with stomach-content data collected at sea, and estimates of egg and larval abundance based on field surveys. It was shown that because of prolonged spawning and generally smooth egg-production curves it is possible to estimate total egg production of several marine species with reasonable precision even with bi-monthly surveys.

University of Rhode Island is developing hydrological and biological models to determine possible effects of oil spills on Georges Bank.

University of Maryland is investigating the use of climatic data to forecast yields of fish. Novel ways to use multiple-regression models and environmental variables to predict variability in fish catches are objectives of the research. Striped bass, bluefish, and menhaden are among the species being studied. The University also is studying commercial catch statistics to further understanding of stock dynamics in several Chesapeake Bay species, including bluefish and striped bass. The statistics are being used to study age, growth, and mortality rates, as well as recruitment variability. Cohort analyses are being run.

Skidaway Institute, Georgia, is studying factors that affect spawning by fishes on the continental shelf, including bluefish (*Pomatomus saltatrix*), menhaden (*Brevoortia tyrannus*), and round herring (*Etrumeus teres*). Effects of Gulf Stream spin-off eddies which influence shelf productivity are also being studied.

Sea herring

Northeast Fisheries Center prepared an assessment update for sea herring stocks in the Gulf of Maine for input to fishery management plan amendments. Additional analyses of management options favoring the juvenile and/or adult fisheries and recruitment simulations were prepared.

The Center prepared a report on the use of meristic characters in herring stock discrimination. Herring parasite samples were collected for an intensive study of the use of parasites as stock discriminators.

Experiments conducted by the Center under the International Herring Tagging Program originally sponsored by ICNAF/NAFO were analyzed in detail to examine movement/migratory behavior and implications for stock identification.

A combined bottom trawl-hydroacoustic survey was conducted on Georges Bank during September-October by the Polish R/V WIECZNO to monitor recovery of the Georges Bank stock.

Maine Department of Marine Resources conducted herring tagging research in coastal Maine waters.

University of Rhode Island is investigating comparative feeding strategies and energetics of menhaden and Atlantic herring. Larval herring growth is being analyzed, using previously collected data from a number of studies. Effects of environmental variables are of particular interest. A biological model of Atlantic herring dynamics is being developed as part of a study of oil spill effects on Georges Bank.

River herring and shad

Northeast Fisheries Center prepared background information on biology, distribution, historical catches, and available assessment-type data in support of a fishery management plan being developed by the Atlantic States Marine Fisheries Commission for alewives, blueback herring, hickory shad, and American shad along the Atlantic coast of the US.

Atlantic mackerel

Northeast Fisheries Center provided an assessment of the status of the Northwest Atlantic mackerel stock (North Carolina to Newfoundland) for use in amending the fishery management plan for 1982-83.

The Center coordinated the collection of age/length, catch-per-effort, and hydroacoustic data from a specially authorized directed fishery for mackerel by two Polish vessels in the New York Bight during January-March 1981. Plans were developed for conducting a joint US-Polish mackerel survey between Georges Bank and North Carolina during January-March 1982.

An ad hoc mackerel working group organized within the Center and including members from various scientific disciplines such as assessments, ecology, physiology, pathobiology, and genetics met in November to discuss the impact of disease on natural mortality of mackerel, identify criteria to be considered in studying the effect of diseases on fish populations, and prepare a protocol for a monitoring program on mackerel to be implemented beginning with the joint US-Polish mackerel survey to be conducted during January-March 1982.

King mackerel

Studies by the Florida Department of Natural Resources on the king mackerel (Scomberomorus cavalla) include a tag-recapture program to investigate migrations, stock structure, and population parameters; and electrophoretic studies to help define the stock structure of Atlantic Coast and Gulf of Mexico populations.

Striped bass

Studies continued in 1981 dealing with the current status and causes for decline in the Atlantic coast migratory stock of striped bass. These studies were largely done by states supported by federal funds provided by the Chafee Amendment to the Anadromous Fish Conservation Act. Fishery characterization studies were conducted by North Carolina, Virginia, Maryland, New Jersey, New York, Rhode Island, and Massachusetts; young-of-year surveys were conducted by Virginia, Maryland, and New York; and early life-history studies were conducted by Virginia and Maryland.

In addition, Northeast Fisheries Center completed an indexed bibliography of the striped bass literature and a study on the relationship between water temperature and survival of larval striped bass. Workshops involving state and center personnel were held in September on tagging studies and ageing of striped bass.

University of Maryland is carrying out several studies on striped bass eggs and larvae, including food, nutrition, effects of starvation, from field and laboratory research.

Bluefish

Northeast Fisheries Center participated in reviewing a proposed fishery management plan for bluefish along the Atlantic coast of the US.

Butterfish

Northeast Fisheries Center prepared an assessment of the status of butterfish for use in amending the fishery management plan for 1982-83.

Virginia Institute of Marine Science is investigating the distribution, abundance, and life history of butterfish. Commercial landings data are being collected for the Virginia fishery. Larval surveys are included.

Round scad

College of Charleston, South Carolina, is studying the biology and life history of round scad (Decapterus punctatus).

Sailfish

Florida Department of Natural Resources has long-term studies of the Atlantic sailfish (Istiophorus platypterus), obtaining catch and effort statistics from major tournaments and investigating age and growth, growth models, and other population parameters.

Spiny dogfish

Virginia Institute of Marine Science is investigating the potential for commercial shark fisheries, with spiny dogfish (Squalus acanthias) the species of primary interest. Catch, effort, life history, and experimental longline fishing are included.

Large pelagics

Personnel from the Northeast and Southeast Fisheries Centers participated in February 1981 in summarization of available assessment information on large sharks in US waters of the western Atlantic and Gulf of Mexico for use in evaluating the need for modifying current management regulations on shark catches.

During 1981 a total of 5,222 sharks representing 34 species, and 157 teleosts of 9 species were tagged and released under the National Marine Fisheries Service cooperative shark-tagging program. Volunteer taggers accounted for 99% of the releases.

Two manuscripts on the age and growth of the sandbar shark (Carcharhinus plumbeus) and the shortfin mako (Isurus oxyrinchus) were completed. Sixteen years of length-frequency information collected primarily at sport fishing tournaments and from a Virginia commercial fishing operation were analyzed as well as an extensive data base of recaptures from tagged sharks.

An investigation of the food habits of North Atlantic sharks continued with two papers on the shortfin mako and the blue shark (Prionace glauca).

Analysis of a longline data base containing over 2,500 longline sets was undertaken resulting in an ICES publication summarizing regional catch rates of approximately 15 species of apex predators (sharks, swordfish, and tuna). A comparison of the species composition and catch rates from the directed longline fisheries included in this data base is being prepared.

Research cruises were conducted aboard two vessels, the DARANA R, a US commercial boat, and the R/V WIECZNO from Gdynia, Poland. On the DARANA R, food habits data from pelagic longline-caught sharks and swordfish were collected along the edge of the continental shelf from east of Oregon Inlet, North Carolina, to Wilmington Canyon. During two cruises aboard the WIECZNO, 139 sharks were tagged and biological data on food habits, age and growth, reproduction, and migration were collected. On the first cruise, under the direction of Dr. Frank Carey from the Woods Hole Oceanographic Institution, a blue shark, bigeye thresher, and scalloped hammerhead shark were tracked using ultrasonic telemetry. The primary focus of the second cruise was to examine stomach contents of large apex predators as they migrated offshore from the shelf and slope waters. (On other cruises, Dr. Carey worked with four yellowfin tuna in the eastern tropical Pacific and a swordfish in the Straits of Florida. An echo sounder has been arranged to indicate acoustic scattering layers in an effort to learn if the large fish is at the same depth as its potential prey. Study was continued on systems which warm the brain and eye of some of these fish.)

University of Miami is studying and compiling population dynamics and fishery related statistics on swordfish, including age, growth, mortality, and yield models. Catch and effort statistics for the Florida fishery are being analyzed. The Florida Department of Natural Resources is participating in this project. The University also is investigating the potential for development of pelagic shark fisheries. Catch and effort data are being obtained in an experimental longline fishery. The University is using satellite remote sensing and monitoring to investigate the relationship of bluefin tuna distribution and abundance to oceanographic factors. Objectives are to understand how the fish respond to oceanographic clues and how such information can be used for prediction.

University of South Carolina is investigating broadbill swordfish age and growth, to develop better aging techniques using otoliths and fin spines. The South Carolina Wildlife and Marine Resources Department is collecting broadbill swordfish landings and size-composition data.

University of Rhode Island is analyzing swordfish catch and effort data from the Northwest Atlantic, based on longline records. Differences in catches and catch per unit of effort among areas, years, and seasons will be used to derive inferences about stock structure and swordfish population dynamics.

Pelagic fish in general

Miami Laboratory, Southeast Fisheries Center, conducted an ichthyoplankton cruise in the Gulf of Mexico from August 13 to September 2, 1981 to collect tuna, scombroid, and other important commercial and recreational fish larvae for studies on development, abundance, and distribution. The material was collected using bongo and neuston nets from the R/V OREGON II. The samples were sorted by the Polish Sorting Center and the bluefin tuna larvae have been enumerated for stock-size determination which will be reported to ICCAT in 1982. Seventy-six stations were made throughout the Gulf of Mexico.

Miami Laboratory is also conducting ichthyoplankton studies in the Flower Gardens Reef area off the Texas coast in the Gulf of Mexico to assess the impact on ichthyoplankton of drilling mud plumes, and possible effects on pathways of larval fish recruits to the reefs. Sampling has taken place in 1980 and 1981 and will be continued in 1982. Sorting is done by the Polish Sorting Center. The density of ichthyoplankton in the vicinity of the reefs ranges from 73 to 383 larvae per 1,000 m^3 of water sampled. Dominant juveniles of larval fish are Bogiidae, Myctophidae, Bothidae, Carangidae, Gadidae, Bregmacerotidae, and Gomostomatidae.

University of Miami and University of Maryland are assessing eastern Gulf of Mexico clupeid and carangid populations to determine yield potentials; of major concern are Spanish sardine (Sardinella aurita), thread herring (Opisthonema oglinum), and round scad (Decapterus punctatus). Age, growth, mortality, and analytical yield models are included.

Gulf Coast Research Laboratory, Mississippi, is working on determining recruitment patterns of fishes, and conducting larval surveys of a number of pelagic species including anchovies and menhaden.

U.S.S.R.

No report received.